MARKET ORIENTATION AND BUSINESS ECONOMIC PERFORMANCE: A MEDIATIONAL MODEL

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Abstract _____

Previous studies have found that market orientation significantly predicts economic performance. The present study attempts to provide a necessarily partial model for how this impact takes place using innovation degree, innovation performance and customer loyalty as intermediate variables. The study targets the insurance industry in the European Union. Our sample accounted for 22% of the companies and 17% of the insurance premiums in this market. Our results suggests that the addition of these variables improves our predictions of objective economic performance over what is explained by market orientation alone. Furthermore, we found that the effects of market orientation on economic performance are completely channeled (mediated) through these variables, particularly through innovation degree and innovation performance.

Keywords: market orientation, innovation, marketing research, LISREL.

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In a time characterized by increasingly rapid change in consumer preferences, even faster technological progress, and growing competitive rivalry, it becomes essential for companies to develop mechanisms within their organizations to generate market information, analyze it, and respond accordingly. The set of activities developed by companies for permanent monitoring, analysis, and response to these market changes is referred to in the Marketing literature as *market orientation*. Over the last decade there has been a growing interest in the construct of market orientation (Webster 1994; Day 1992) and its usefulness in increasing companies' economic performance (Narver and Slater 1990; Ruekert 1992; Jaworski and Kohli 1993; Lambin 1996; Deng and Dart 1994). However, it is not clear yet why there is such an effect and how it operates (Lambin 1996).

The present research investigates whether innovation degree, innovation performance and customer loyalty behave as mediators in the relationship between market orientation and business economic performance. According to Baron and Kenny (1986), an intermediate variable is said to be a mediator if when introduced within a directed relationship this vanishes (complete mediational effect) or at least it significantly decreases (partial mediational effect). More specifically, we use a single-industry, single-market approach to investigate a series of models that postulate that innovation degree, innovation performance and customer loyalty mediate the impact of market orientation on firms' economic performance within the insurance sector in the European Union.

CONCEPTUAL FRAMEWORK

Market Orientation

Market orientation was defined by Narver and Slater (1990) as the competitive strategy that most efficiently generates the right kinds of behavior to create enhanced value for the consumer and therefore assures better long-term results for corporations. According to these authors, market orientation is based on orientation towards the customer, orientation towards competitors and inter-functional coordination. Kohli and Jaworski (1990) identify three structural components of market orientation: (1) generation and analysis of all relevant information about the market; (2) dissemination of this information among the various departments of the organization in order to coordinate and arrange strategic planning; and (3) implementation of strategic initiatives designed to satisfy the market. Other authors have put forward similar definitions of market orientation. For example, Ruekert (1992) defines market orientation as the intensity with which companies (a) obtain and use information on customers, (b) develop strategic plans on the basis of that information, and (c) implement these plans, thus responding to customers' wishes and needs.

In reviewing this construct, Lambin (1996) has provided a broader definition of market orientation, which he defines as a competitive strategy that involves all functional areas and levels of the organization and embraces the different market participants. These participants or market forces are: (a) the final customer, (b) the intermediate customer (distributor), (c) the competitors, and (d) environmental factors. To create and hold on to a competitive advantage, companies must (1) analyze and (2) act on every one of these market forces with proper coordination between their functions. As a result, in this theoretical framework, market orientation can be conceptualized as consisting of nine facets : (1) Analysis of the final customers, (2) Analysis of intermediate customers (distributors), (3)

Analysis of the competitors, (4) Analysis of the market environment, (5) Strategic actions on the final customers, (6) Strategic actions on intermediate customers (distributors), (7) Strategic actions on the competitors, (8) Strategic actions on the market environment, and (9) Inter-functional coordination. That market orientation is conceptualized as consisting of nine facets should not be taken to imply that market orientation is a multidimensional concept. Lado, Maydeu-Olivares and Martinez (in press) have shown that these facets are well accounted for by a one factor model. Therefore, these nine facets should be taken as the conceptual components of a unidimensional construct of market orientation, and a unidimensional measure of market orientation is called for.

Market Orientation as Predictor of Firms' Economic Performance

Several studies have found a consistent positive relationship between businesses' degree of Market Orientation and their economic performance (Deng and Dart 1994; Fritz 1996; Greenley 1995; Greenley and Foxall 1997, 1998; Kohli and Jaworski 1993; Narver and Slater 1990; Pelham and Wilson 1996; Pitt, Caruana and Berthon 1996; Ruekert 1992; Selnes, Jaworski and Kohli 1996; Slater and Narver 1994;) Yet, in most of these studies (e.g. Deng and Dart 1994; Fritz 1996; Greenley 1995; Greenley and Foxall 1997, 1998; Narver and Slater 1990; Pelham and Wilson 1996; Ruekert 1992; Selnes, Jaworski and Kohli 1996) a wide cross-section of industries was employed as target population. In so doing, the observed co-variation between market orientation and economic performance confounds within-industry and between-industry market orientation variability. It is important to separate these two sources of variability since, from an applied perspective, interest lies in assessing increments in firms' economic performance due to within-industry market orientation variability.

In our research, we shall isolate the within-industry variation by adopting a single-industry approach. This clearly prevents the generalization of the results outside the scope of the industry considered. On the other side, we can meaningfully assess the impact of unit increments in market orientation on firms' economic performance, and sound inferences can be drawn on the target population based on the representativeness of the sample used.

The confounding of within-industry and between industry variation is not the only threat to the validity of inferences drawn on the relationship between market orientation and economic performance. A second threat is the noise introduced by environmental variables such as market turbulence, market growth rate, buyer and supplier power, and competitive intensity on business performance. A standard approach to minimize this threat is to focus the research on a single market. The drawback of this approach is that we are not able to capture firms' behavior in facing increasing globalization and market integration. As a compromise between these two ends, the present study targets the European Union market. In this market, the key characteristics of a single market are preserved, but it is also an environment in which we can presently observe how firms struggle in meeting the challenges of internacionalization and market integration.

A third threat to the validity of inferences drawn on the relationship between market orientation and economic performance lies in the use of subjective measures of economic performance (i.e., managers' evaluations of their companies' performance). We have attempted to summarize in Table 1 the studies that have investigated the relationship between

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Insert Table 1 about here

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market orientation (or closely related constructs, such as customer orientation) and business performance. As can be seen in this table, positive effects of market orientation on economic

performance have been reported when subjective assessments of performance are used. However, when objective measures of economic performance have been used, mixed results emerged. For instance, Ruekert (1992) and Lambin (1996) report a positive relationship between market orientation and objectively measured economic performance. However, Bhuian (1997), Jaworski and Kohli (1993), Selnes, Jaworski and Kohli (1996), and failed to find any significant relationship. Clearly, when market orientation and economic performance are concurrently assessed by the firms' managers, a perceptual bias may be introduced. A case in point, Van Bruggen and Smidts (1995) found within one single company (which has only one performance) a substantial degree of variation in subjective performance assessments. In fact, they report a positive relationship between market orientation and judgments about the company performance within a single company. As they have pointed out "it might be that managers have a more positive view of their company's market orientation when they perceive their company to be performing well" (Van Bruggen and Smidts 1995, p. 13). Hence, it is important to employ objective measures of economic performance.

Market Orientation in the Services Sector: The European Insurance Industry

The insurance sector is of particular interest from a market orientation viewpoint, as it works with intangible commodities in which service, quality, and customer orientation are crucial elements. The competitive characteristics generated by the European Union provide an additional interest in studying market orientation in this area. The insurance sector in Europe has traditionally operated subject to strict regulations and strong protection from international competition. However, for some years now the European Commission has been working on the liberalization of this sector. Effective implementation of this has brought about a major increase in competition within the sector and has provoked a major restructuring of insurance companies and groups. The competitive climate in Europe has also

been influenced by a downside in the economic cycle and changes in consumer behavior. European customers now show greater service expectations and less loyalty. As a result, rivalry among competitors is increasing, as is the importance of competitive strategies adapted to this sector's needs. In this background, the degree of orientation towards the customer, distributors, competition, and the general socio-economic environment is becoming an increasingly important area of study, not only for academics but for the business world as well.

Lado, Maydeu-Olivares and Martinez (in press; see also Lado, Maydeu-Olivares and Rivera, 1998) have investigated quite extensively the market orientation of insurance firms within the European Union. These authors have not found significant mean differences in market orientation by country. Furthermore, they report substantial agreement between the factor structures of market orientation across countries. Thus, it seems that the European insurance sector can be considered a homogenous population with respect to market orientation.

In sum, our first hypothesis can be formulated as:

H_1: *Within an industry, the more market oriented firms are, the better their objective economic performance.*

UNDERSTANDING THE RELATIONSHIP BETWEEN MARKET ORIENTATION

AND BUSINESSES' ECONOMIC PERFORMANCE

<u>The Role of Innovation Degree</u>

In as much as the concept of market orientation subsumes knowledge about clients' present and future needs, competitors trailing, and a control of environmental factors, market orientation generates market intelligence and it may be an important source of ideas for new

products and services. In this sense, Cooper (1994) reports that a quality relationship with customers provides valuable information to new products' development in the service sector. Also, Subramanian (1997) reports a positive significant association between a multidimensional measure of innovation and organizational performance in the banking industry, while Deshpandé, Farley and Webster (1993) report a positive association between degree of innovation and economic performance in a sample of Japanese corporations. As Gatignon and Xuereb (1997, p. 77) affirm in a recent article, "it is possible that the strategic orientation of the firm leads to, at least in part, superior performance because of the innovation that are brought to market. Although being market-oriented may lead to general benefits for the firm's marketing activities, the ability to bring to market new products, which present the characteristics necessary to be successful, may be critical" .

Market orientation may also be an important determinant of innovation in the services sector. According to Atuahene-Gima (1996) in services like the insurance and banking industries, innovation success depends on the firm's market orientation, especially on its customer orientation. Being in touch with your clients wants and needs, and being able to respond appropriately to them is a key to innovation success in the service sector. Furthermore, the market environment in the service sector is likely to be more competitive in terms of product innovation than in other industries. Innovation in services is more easily and quickly imitated (Tufano 1992) and more difficult to protect by means of patenting. Thus, it may be than in this sector, the relationship between market orientation, innovation and business performance be particularly strong.

The Role of Innovation Performance

In many instances, new products arise from the coordination between Marketing and other business units, such as R&D. Also, competitors' monitoring and a close relationship

with distributors are key elements to the generation of new concepts for new product development. As these are reflected in the market orientation facets of final client analysis and environmental analysis, one should expect a direct link from market orientation to new product performance.

We find support for this hypothesis in the literature (e.g., Ottum and Moore 1997; Slater and Narver 1994,). Also, in a meta-analysis on the determinants of new product success, Montoya-Weiss and Calantone (1994) identify market-related activities as one of the four more important factors that discriminate between a new product success or failure. Successful firms develop superior products that are attuned to customer wants and needs, and they also have strong marketing knowledge and skills to develop and launch the product (Calantone, Schmidt and Song 1996). As Cooper (1994, p. 64) concluded in summarizing the results of new products research "a strong Market orientation is critical both to success and cycle time reduction".

Innovation degree, innovation performance, and business performance are all linked together. Calantone, Benedetto and Bhoovaraghavan (1994) have investigated whether the sheer volume of innovation engaged in by the firm determines the level of new product success. Their findings suggest that the degree of innovation of a firms is related to its new product performance. Hence, firms that attempt to bring out more innovations may be more likely to succeed. Similarly, recent research shows that increased levels of innovation are associated to superior performance (Robinson, Fornell, and Sullivan 1992, Deshpandé, Farley and Webster 1993).

Market Orientation and Customer Loyalty

Deshpandé, Farley and Webster (1993, p. 24), point out that "the canons of the marketing concept assert that profit is a reward for customer orientation which creates a

satisfied customer, but we have only the beginning of systematic empirical documentation of the presumed relationship". In the present competitive market environment, characterized by globalization, with rapid market entry of new products and maturity conditions in many products and services, attaining a high level of customer loyalty has emerged as a central managerial concern. Clearly, customer loyalty constitutes an important objective for strategic marketing planning (Kotler 1984) and represents an important basis for developing a sustainable competitive advantage- an advantage that can be realized through market orientation. A high degree of market orientation leads to customer loyalty, which in the long run contributes to better economic performance. In the service sector, the intangible nature of services gives rise to information's asymmetry between buyers and sellers. This results in higher risk perceptions and greater difficulty in customer's quality evaluation.(Nayyar 1990). As a result, market orientation becomes a crucial instrument to establish long term relations with customers in service firms. Kohli and Jaworski (1990) posited a positive relationship between a firm's market orientation level and customer satisfaction. Also, customer loyalty is expected to have a positive impact on business economic performance since market-oriented firms have a large number of satisfied customer and therefore a higher rate of repeated purchase (Dick and Basu 1994; Lambin 1996).

We summarize the arguments put forth in the preceding sections into the following hypotheses:

H_2: The more market oriented firms are, the higher their innovation degree. The higher their innovation degree, the higher their innovation performance. The higher their innovation performance, the higher their economic success. Also, the more market oriented firms are, the higher their customer loyalty. The higher their customer loyalty, the higher their economic success. Finally, innovation degree, innovation performance and customer loyalty

each taken separately channel the impact of market orientation on business economic

performance.

Innovation degree, innovation performance and customer loyalty tap on different aspects of market orientation. Hence, these three variables taken together will convey more of the direct effects of market orientation on business economic performance than each of them taken separately. Furthermore, if each of these variables is found to be at least a partial mediator it is possible that taken together these three variables are able to convey all such direct effects.

H3: Taken jointly, innovation degree, innovation performance and customer loyalty

completely mediate the impact of market orientation on economic performance. Furthermore,

the relationship between innovation degree and economic performance is all conveyed

through innovation performance.

This last hypothesis is graphically depicted in Figure 1.

Insert Figure 1 about here

EMPIRICAL ANALYSIS

<u>Data</u>

The population universe considered in this article is defined as the set of insurance companies operating in the European Union which meet the following conditions: a) they operate in private insurance or "mass insurance"; b) they have a market share of more than 0.05%; and c) their management is independent. The list of European insurance companies was taken from the Financial Times yearbook for 1996.

It was assumed that senior executives were the people best qualified to assess the company's market orientation, as well as their innovation degree, innovation performance,

and customers' loyalty. Therefore, information from these variables was gathered via a postal

questionnaire submitted to the senior executive in each of the 554 companies comprising the

target population. We obtained 122 valid questionnaires, giving a response rate of 22%. This

sample accounts for over 17% of total insurance premiums in the European Union.

In order to assess response bias, the questionnaires were divided into quartiles on the

basis of reception date (Armstrong and Overton 1977). An analysis of early and late

responses did not indicate any significant difference in terms of means and covariances.

Measures

Business economic performance is a complex construct with multiple possible

observed indicators. Here we measure this construct using three reflective indicators[1]:

domestic market share, premium growth, and profitability per year averaged over the last

three years. Thus, all three indicators are expressed as percentages. These data were obtained

from the managers responding the questionnaire. Their responses were carefully contrasted

with published financial information (e.g., "Reuters Insurance Briefing").

Market orientation was measured using the Market Orientation Scale-Revised (MOS-

R). This scale is a shortened version of the MOS validated by Lado, Maydeu-Olivares and

Rivera (1998) in the population of insurance companies of Belgium and Spain. Lado,

Maydeu-Olivares and Martinez (in press) shortened the original MOS scale while extending

the previous validation study to target all insurance companies operating in the European

Union. In an appendix we provide the 30 items composing the MOS-R. Each item is to be

rated on a 10 point Likert-type scale ranging from 0 (complete disagreement) to 10 (complete

agreement).

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[1] We considered employing the total volume of premiums for each insurance company as an additional indicator
although it seemed to us to be a better indicator of a company's size rather than of its performance. As we
suspected, the total volume of premiums was uncorrelated with any of the variables considered in this study

Innovation degree and innovation performance were assessed by means of multi-item questionnaires akin to Miller and Friesen's (1983). Innovation performance was measured by a four item questionnaire regarding the success of a new product/service (defined as an improved product, a product extension, or a new product line) introduced by the company. The questions involved whether the new product/service had succeeded in meeting the sales growth, market share and profit objectives set up by the company.

Innovation degree was assessed by a three item questionnaire that inquired the rate of new products/services introduced by the company relative to competitors, the amount of new products/services marketed by the company over the past three years, and the nature of change of the new products/services.

Finally, we used a four item questionnaire based on existing literature (e.g., Dick and Basu 1994, Javalgi and Moberg 1997) to evaluate managers' perceptions of their customers' loyalty. The questionnaire taps on the proportion of their customers' insurance premiums taken on by the company, the average time a customer remains in the company's portfolio, the probability of a customer renewing a premium and the overall perception of the company customers' loyalty.

Scale scores for innovation degree, innovation performance and customer loyalty were obtained as an unweighted sum of the corresponding items. Since in all three cases Likert-type items on a 0-7 scale were used, scale scores for these variables range from 0-27, 0-27, and 0-28, respectively. For market orientation, we computed a score for each of its facets as an unweighted sum of the corresponding items. Then a global market orientation score was obtained as a sum of the facets' scores inversely weighted by their number of items. Hence, this market orientation score assigns equal weights to each its facets, and ranges from 0-90.

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except for the company's market share (r = .24, p < .01). Hence it is clear that volume of premiums should not

The scales' reliability (as assessed by coefficient alpha) in this sample were 0.88 (market orientation), 0.70 (innovation degree), 0.91 (innovation performance), and 0.76 (customer loyalty). The means, standard deviations and correlations among all variables considered in this study are presented in Table 2. As can be seen in this table, the three

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Insert Table 2 about here

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indicators of business economic performance are significantly but not largely correlated (the correlations range from 0.20 to 0.29). The correlations among the hypothesized intermediate variables (innovation degree, innovation performance and customer loyalty) are not high except for innovation degree and innovation performance, which share 36% of their variance. The correlations of market orientation with the intermediate variables appear significantly larger (they range from 0.55 to 0.58) than with the dependent variables (they range from 0.23 to 0.36). We found a wide range of values on each of the self-reported intermediate variables. We observe in Table 2 that managers report on average a high degree of innovation in their businesses, not so high a level of customer loyalty, and a level of innovation performance just at the scale mean. The average self-reported degree of market orientation is 56 on a 0-90 scale.

Method

All hypotheses were contrasted using covariance structure analysis as implemented in LISREL 8.20 (Jöreskog and Sörbom 1997). All three indicators of business performance are highly positively skewed and present a high degree of kurtosis. Throughout this paper, rather than attempting to transform these variables to near-normality we shall employ an estimation

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be used as an indicator of insurance companies' performance.

approach that is robust to non-normality of the observed variables. The parameter estimates where obtained using maximum likelihood estimation, robust standard errors where obtained as in Satorra (1992), and two test statistics were used to assess the goodness of fit of the model: the Satorra-Bentler scaled chi-squared statistic (Satorra and Bentler 1988: Equation 4.1), and Browne's (1984, Equation 2.20 a) chi-squared statistic corrected for non-normality. To better evaluate the goodness of fit of this model, several additional indices will also provided: the Root Mean Squared Error of Approximation (RMSEA; Steiger 1990), the Standardized Root Mean Squared Residual (SRMSR; Jöreskog and Sörbom 1997), the Goodness-of-Fit Index (GFI; Tanaka and Huba 1985), and the Comparative Fit Index using the independence model as baseline (CFI: Bentler, 1990; see also McDonald and Marsh 1990). Adequate to good fit is suggested by RMSEA and SRMSR values approaching 0.05. For the GFI and the CFI indices, values between 0.80 and 1.00 indicate adequate to good fit.

<div align="center">Results</div>

Hypothesis 1

The model used to estimate the effects of market orientation on insurance businesses' performance consists of a latent variable representing economic performance with three indicators (market share, premium growth, and profitability) and a single exogenous variable (market orientation). This model is depicted Figure 2. The parameter estimates and goodness

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Insert Figure 2 about here

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of fit indices for this model are given in Table 3. The model shows a good fit, although note

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Insert Table 3 about here

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that it only has two degrees of freedom. According to the model, the best objective indicator of business economic performance is profitability per year: over 34% of its variance is accounted for by the model. The standardized regression coefficients reveal that profitability per year is the best objective indicator of overall business performance. Finally, according to the model almost 37% of overall business economic performance is accounted for by the degree of market orientation.

An inspection of the total effects of market orientation on the indicators of economic performance suggests that unit increments of market orientation as measured by the MOS-R are associated with 0.095, 0.168, and 0.153 increments in domestic market share, premium growth, and profitability per year averaged over the last three years, respectively.

Hypothesis 2

A mediational model for the relationship between market orientation and business performance is depicted in Figure 3. In this context, a mediating effect is said to exist when

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Insert Figure 3 about here

(i) both mediating paths $\{b_5, b_6\}$ are significant, and (ii) the direct effect of the exogenous variable on the outcome variable vanishes (complete mediational effect) or is significantly lower (partial mediational effect) when a mediator variable is introduced in the model. Condition (ii) amounts to b_1 in Figure 3 becoming zero or significantly less that than value reported for Figure 2.

We used the mediational model depicted in Figure 3 to test for mediating effects of innovation degree, innovation performance, and customer loyalty separately on the impact of market orientation on business economic performance. We found that when either innovation performance or innovation degree were used as mediating variable, all the mediating paths

were significant and that direct path from market orientation to business performance was not significantly different from zero: $\underline{b}_1 = .035$, $\underline{t} = 1.619$, for innovation performance; $\underline{b}_1 = .038$, $\underline{t} = 1.856$, for innovation degree. Hence, taken separately both innovation degree and innovation performance completely mediate the impact of market orientation on business performance. After fixing $\underline{b}_1$ at zero, we re-estimated these two mediational models. The resulting parameter estimates and goodness of fit indices for these two models are shown in Table 4. On the other hand, customer loyalty was found not to have a mediational effect between market orientation and business performance. The parameter estimates and goodness of fit indices for this model are also given in Table 4. As can be seen in this Table, the mediating paths are significant, but the direct path $\underline{b}_1$ is significantly different from zero at

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Insert Table 4 about here

$\alpha = 0.01$. Furthermore, a 99% confidence interval for the value for $\underline{b}_1$ reported in Table 3 (0.02895; 0.08505) includes the value of $\underline{b}_1$ estimated in the mediational model using customer loyalty, 0.041. Hence, this variable does not even partially mediate on the impact of market orientation on business economic performance. The standardized direct impact of market orientation on business performance (0.408) is more than twice the standardized impact of market orientation conveyed through customer loyalty (0.191).

The percentage of variance of business economic performance explained by the model when innovation performance, innovation degree or customer loyalty are used as mediators is very similar (46.5%, 45.3%, and 43.7% respectively).

Hypothesis 3

The full model to be fitted corresponding to the hypothesis depicted in Figure 1 is presented in Figure 3. The parameter estimates and goodness of fit test corresponding to this

model are given in Table 5. As can be seen in this table, the model fits these data very well. All

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Insert Table 5 about here

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the postulated relationships were found to be significant at an $\alpha = 0.01$. Lagrange multiplier tests indicated that the fit of the model would not significantly improve by (a) adding a direct effect of market orientation to business performance, nor by (b) adding a direct effect of innovation degree on innovation performance. Result (a) is in accordance with the results discussed above, where we saw that innovation degree and innovation performance, even when taken separately, completely mediate the impact of market orientation on business performance. Result (b) confirms our hypothesis that innovation performance completely mediates the impact of innovation degree on business performance.

Given that all effects of market orientation on business performance go through either innovation degree-innovation performance, or customer loyalty, a question arises as to the relative importance of the specific effects going through these variables. The standardized specific effect (computed as in Bollen 1987) going through innovation degree and innovation performance is 0.314, and 0.209 going through customer loyalty. Hence the impact of market orientation going through innovation is 50% more than that going through customer loyalty.

We can also see in this table that over 30% of the variance of the intermediate variables (innovation degree, innovation performance and customer loyalty) are explained by market orientation. In fact, almost 50% (46.4% to be exact) of innovation performance is explained by market orientation. Furthermore, note that the percentage of variance of business performance explained by the model is 56.1%, a 52% increment over what is explained by market orientation alone (see Table 3), and over a 20% increment over what is

explained by the mediational models considered previously. Hence, the inclusion of all three intermediate variables in the model improves considerably our prediction of business performance.

Furthermore, we observe in Table 5 that the direct effect of market orientation on all three intermediate variables appear to be equal. Also, the direct effects of customer loyalty and of innovation performance on economic performance appear to be equal. We re-estimated the model to test these constraints, obtaining $\underline{b}_1 = \underline{b}_2 = \underline{b}_3 = 0.133$, $\underline{b}_5 = \underline{b}_6 = 0.157$, Satorra-Bentler X^2 (15) = 8.849, $\underline{p} = 0.885$.

CONCLUSIONS

Market orientation can be defined as a strategy used to reach a sustainable competitive advantage based on the generation and use of information within organizations, and on the selection of markets to be satisfied. In this framework, competitive advantage results from the use of resources and capabilities to generate differential satisfaction in profitable markets. Sustainability is achieved because the performance of the market orientation's behaviors requires complex organizational knowledge that cannot easily be imitated by competitors. The satisfaction of profitable markets permits the firm to achieve a psychologically differential position which leads to brand loyalty and thus to higher profits (Lambin 1996). Previous studies have found a clear impact of market orientation on economic performance. Here we have attempted to provide a necessarily partial model for how this impact takes place using that innovation degree, innovation performance and customer loyalty as intermediate variables. Our results suggest that the addition of these variables help improve our predictions of business economic performance 52% over what is explained by market orientation alone. We found that innovation degree and innovation performance each taken separately completely mediate the effect of market orientation on economic performance. Furthermore,

the impact of innovation degree on economic performance is completely channeled through innovation performance. Customer loyalty by itself does not meditate the impact of market orientation on economic performance, but when considered along with innovation degree and innovation performance, it conveys some of the effects of market orientation on business performance. This seemingly contradictory result arises from the fact that all three intermediate variables are interrelated.

Our results should not be taken to imply that there are no other variables mediating the effect of market orientation on economic performance. We believe that other variables that have not been taken into account in this study, such as product quality and customer satisfaction may also be significant mediators. However, our results do suggest that whenever innovation degree and innovation performance are included in the model as intermediate variables, the effects of market orientation on business performance will mostly be conveyed through these variables.

An important contribution of the present research is the use of objective measures of business performance. In addition, despite the growing role of globalization and market integration, and despite the increasing internationalization of corporations, most studies on market orientation have focused on domestic markets (with notable exceptions, such as Selnes, Jaworski and Kohli 1996; Webster 1994). A similar issue occurs with studies on product innovation. There is a lack of research yielding empirical support to the validity in an international setting to research results obtained in domestic markets. To fill this gap, we targeted the European Union market.

Our study focused on a single industry, the insurance sector. Our sample accounted for 22% of the companies and 17% of the insurance premiums in the targeted market. An advantage of our single-industry approach is that (with obvious reservations arising from the

non-experimental nature of our study and the fact that our sample should not be considered to have been obtained at random), we can draw tentative predictions from our model concerning the impact of market orientation on economic performance in insurance companies operating in the European Union market. An evident drawback of the single-industry approach adopted here is that it is not clear how the present results extrapolate to other industries, even when operating in the same market.

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Table 1

Summary of empirical research on the relationship between market orientation (MO) and

business performance (BP)

Author(s)	Sample	Measures		Conclusions
		MO	Performance	
Narver & Slater, 1990	113 SBUs of a US corporation	3 components: Customer orientation, Competitor orientation and Interfunctional coordination	subjective and relative: ROA, growth sales, NP success	positive relation MO-BP
Ruekert, 1992	5 SBUs of a US corporation	3 components: Use of information, Development of MO strategy, Implementation of MO strategy	objective: growth sales and profitability	positive relation MO - BP
Kholi & Jaworski, 1993	2 samples: 222 SBUs, and 230 managers - US	3 components: Intelligence generation, Intelligence dissemination and Responsiveness	subjective and relative overall performance objective: market share	positive relation MO-subjective BP not significant relation MO-objective BP
Kholi, Jaworski and Kumar, 1993	2 samples: 229 SBUs, and 230 managers - US	MARKOR scale, 3 components: Intelligence generation, Intelligence dissemination and Responsiveness	subjective multiple items performance measure	positive relation MO- BP
Diamanto-poulos & Hart, 1993	87 firms UK	Kohli & Jaworski's scale	subjective and relative measures: sales growth	mixed results about MO-BP relation
Slater & Narver, 1994	81 SBUs and 36 SBUs of two US firms	Narver & Slater's scale	subjective measures: ROA, sales growth, and NP success	positive relation MO-BP
Deng & Dart, 1994	248 firms Canada	Narver & Slater's components, plus Profit emphasis	11 subjective performance measures (1 about NP success)	positive relation MO-BP
Deshpandé Farley & Webster, 1994	50 firms Japan	consumer orientation	subjective measures: profitability, market share, growth rate, and size	positive relation customer orientation-BP
Van Bruggen & Smidts, 1995	82 managers of a single firm Holland	Kohli &Jaworski's scale for distributors and competitors	subjective measures: absolute and relative overall perfromance	positive relation MO-BP
Greenley, 1995	240 firms UK	Narver & Slater's scale	subjective BP measures: ROI, sales growth, and NP success	positive relation MO-BP
Lambin, 1996	34 insurance firms, Belgium	scale with nine components	objective BP measures	positive relation MO-BP
Fritz, 1996	144 firms Germany	3 items: selling and customer oriented corporate philosophy, and customer satisfaction importance in goals	subjective BP measures: long term profitability	positive relation MO-BP
Pitt, Caruana & Berthon, 1996	161 service firms UK 193 firms in Malt	Kohli, Jaworski and Kurman's MARKOR scale	subjective performance measures: overall performance and realtive, sales growth, ROCE	positive relation MO-BP in both samples

Table 1 (cont.)

Author(s)	Sample	Measures		Conclusions
		MO	Performance	
Selnes, Jaworski & Kohli, 1996	102 firms, 222 SBUs US, 70 firms, 237 SBUs Scandinavia	Kohli, Jaworski and Kurman's MARKOR scale	subjective measures: overall perfromance, overall relative performance objective measure: market share	positive relation MO-subjective BP non significant relation MO-market share
Pelham & Wilson, 1996	68 small firms US (longitudinal study)	9 items based on Narver and Slater, and Kholi and Jaworski scales	subjective measures: NP success, product quality	positive relation MO-BP
Atuahene-Gima, 1995, 1996	117 service firms and 158 manufacturing firms Australia	Ruekert's scale	subjective measures of NP performance	MO is an important factor in the NP success
Bhuian, 1997	92 bank managers Saudi Arabia	Kohli &Jaworski's scale	objective measures: ROA, ROE and sales per employee	non significant relation MO-BP
Gatignon & Xuereb, 1997	393 marketing managers US	Narver and Slater's scale of customer and competitor orientation	multi-item subjective measures of NP success	different strategic orientations have different impact on innovation performance according the market characteristics
Greenley & Foxall, 1997, 1998	230 firms UK	Kohli, Jaworski and Kurman's MARKOR scale	subjective measures: ROI, sales growth, market share and NP success	the impact of multiple stake holder orientation on performance is moderated by the external environment

Notes: NP = new product

Table 2

Means, standard deviations and inter-correlations

	MST	PG	PROF	INNODR	INNPERF	LOYAL	MO
MST	1.000						
PG	0.199*	1.000					
PROF	0.226*	0.287	1.000				
INNODR	0.300	0.341	0.353	1.000			
INNPERF	0.273	0.322	0.407	0.621	1.000		
LOYAL	0.252	0.192*	0.376	0.399	0.381	1.000	
MO	0.235	0.296	0.358	0.553	0.577	0.566	1.000
$\bar{x}$	4.557	7.876	6.258	18.246	14.221	19.959	56.277
std	5.350	7.487	5.713	3.561	2.916	5.200	13.309

Notes: $\underline{N}$ = 122, all correlations are significant (α = 0.01) except those marked by * which are only significant at an α = 0.05.

MS = market share, PG = premium growth, PROF = profitability, INNODR = innovation degree, INNPERF = innovation performance, LOYAL = customer loyalty, MO = market orientation.

Table 3

Estimation results for the model depicted in Figure 2

parameter estimates		goodness of fit		R^2	
par.	value	index	value	variable	
b_1	0.057 [0.606] (0.017)	MFF X^2	0.014 ($p = 0.993$)	market share	0.152
b_2	1.659 [0.390] (0.485)	S-B X^2	0.007 ($p = 0.997$)	premium growth	0.242
b_3	2.931 [0.492] (0.776)	B X^2	0.011 ($p = 0.995$)	profitability	0.344
b_4	2.665 [0.587] (0.841)	RMSEA	0.0	business performance	0.368
u_1	177.132 [1.000] (22.414)	df	2		
u_2	24.273 [0.848] (7.127)	SRMSR	0.003		
u_3	42.482 [0.758] (13.638)	GFI	1.000		
u_4	21.407 [.656] (5.151)	CFI	1.000		

Notes: Robust asymptotic standard errors are provided in parentheses, standardized parameter estimates are provided in square brackets.

MFF X^2 = Minimum fit function chi-square; SB X^2 = Satorra-Bentler scaled chi-square;

B X^2 = Browne's chi-square corrected for non-normality; RMSEA = root mean squared error of approximation; SRMSR = standardized root mean squared residual; GFI = goodness of fit index; CFI = comparative fit index. R^2 = squared multiple correlations for endogenous variables.

Table 4

Estimation results for the model depicted in Figure 3

innovation performance as mediator

parameter estimates				goodness of fit	
par.	value	par.	value	index	value
b_1	0 *(fixed)*	u_1	177.129 [1.000] (22.414)	MFF X^2	5.598 ($p = 0.347$)
b_2	1.550 [0.396] (0.415)	u_2	24.138 [0.843] (7.112)	S-B X^2	3.801 ($p = 0.578$)
b_3	2.627 [0.480] (0.671)	u_3	43.164 [0.770] (4.551)	B X^2	4.292 ($p = 0.508$)
b_4	2.481 [0.594] (0.805)	u_4	21.133 [0.647] (4.551)	RMSEA	0.031
b_5	0.226 [0.577] (0.030)	u_5	18.025 [0.667] (2.801)	df	5
				SRMSR	0.047
b_6	0.179 [0.682] (0.049)			GFI	0.982
				CFI	0.994

Table 4 (cont.)

innovation degree as mediator

parameter estimates		goodness of fit	
par. value	par. value	index	value
b_1 0 *(fixed)*	u_1 177.129 [1.000] (22.414)	MFF X^2	7.174 ($p = 0.208$)
b_2 1.690 [0.497] (0.364)	u_2 23.399 [0.817] (7.382)	S-B X^2	4.969 ($p = 0.428$)
b_3 2.815 [0.509] (0.816)	u_3 41.563 [0.741] (4.495)	B X^2	6.133 ($p = 0.293$)
b_4 2.260 [0.535] (0.786)	u_4 23.294 [0.714] (4.595)	RMSEA	0.060
b_5 0.121 [0.553] (0.017)	u_5 5.902 [0.694] (0.784)	df	5
		SRMSR	0.054
b_6 0.312 [0.673] (0.089)		GFI	0.977
		CFI	0.976

Table 4 (cont.)

customer loyalty as mediator

parameter estimates				goodness of fit	
par.	value	par.	value	index	value
b_1	0.041 [0.408] (0.018)	u_1	177.129 [1.000] (22.414)	MFF X^2	2.302 (p = 0.680)
b_2	1.605 [0.400] (0.506)	u_2	24.051 [0.840] (7.112)	S-B X^2	1.552 (p = 0.817)
b_3	2.524 [0.449] (0.737)	u_3	44.752 [0.798] (4.551)	B X^2	3.088 (p = 0.543)
b_4	2.654 [0.619] (0.920)	u_4	20.130 [0.617] (4.551)	RMSEA	0.0
b_5	0.151 [0.565] (0.019)	u_5	8.625 [0.680] (1.040)	df	4
b_6	0.126 [0.338] (0.053)			SRMSR	0.022
				GFI	0.993
				CFI	1.000

Notes: Robust asymptotic standard errors are provided in parentheses, standardized parameter estimates are provided in square brackets.

MFF X^2 = Minimum fit function chi-square; SB X^2 = Satorra-Bentler scaled chi-square;

B X^2 = Browne's chi-square corrected for non-normality; RMSEA = root mean squared error of approximation; SRMSR = standardized root mean squared residual; GFI = goodness of fit index; CFI = comparative fit index.

Table 5

Estimation results for the model depicted in Figure 4

parameter estimates				goodness of fit		R^2	
par.	value	par.	value	index	value	variable	value
b_1	0.121 [0.553] (0.017)	u_1	177.129 [1.000] (22.414)	MFF X^2	10.590 ($p = 0.564$)	market share	0.162
b_2	0.132 [0.337] (0.035)	u_2	5.902 [0.694] (0.784)	S-B X^2	7.851 ($p = 0.797$)	premium growth	0.192
b_3	0.151 [0.565] (0.019)	u_3	14.480 [0.536] (2.587)	B X^2	12.668 ($p = 0.394$)	profitability	0.379
b_4	0.775 [0.435] (0.151)	u_4	8.625 [0.680] (1.040)	RMSEA	0.0	business performance	0.561
b_5	0.158 [0.542] (0.051)	u_5	23.913 [0.838] (7.229)	df	12	innovation performance	0.464
b_6	0.157 [0.369] (0.071)	u_6	45.090 [0.808] (12.714)	SRMSR GFI	0.048 0.977	innovation degree	0.306
b_7	1.422 [0.402] (0.450)	u_7	20.115 [0.621] (4.602)	CFI	1.000	customer loyalty	0.320
b_8	2.170 [0.439] (0.635)						
b_9	2.318 [0.615] (0.850)						

Notes: Robust asymptotic standard errors are provided in parentheses, standardized parameter estimates are provided in square brackets.

MFF X^2 = Minimum fit function chi-square; SB X^2 = Satorra-Bentler scaled chi-square;

B X^2 = Browne's chi-square corrected for non-normality; RMSEA = root mean squared error of approximation; SRMSR = standardized root mean squared residual; GFI = goodness of fit index; CFI = comparative fit index. R^2 = squared multiple correlations for endogenous variables.

Appendix: Item Content of the Market Orientation Scale-Revised (MOS-R)

Analysis of the Final Customer

1. We permanently measure our customers' degree of satisfaction

2. We constantly monitor the evolution of our current and potential customers' requirements

3. We know the factors influencing our customers' purchasing habits very well

4. We collect information necessary for detecting the appearance of new market segments (i.e., groups of customers with new requirements)

5. We always have full, updated, information on the evolution of the image of our products held by our current and potential customers

Analysis of the distributor

1. We permanently measure the degree of our distributor's satisfaction

2. We monitor the evolution of our distributors' requirements

3. We collect information on how our products integrate into our distributors' activities

4. We have accurate knowledge of the problems that marketing our products may cause to our distributors

5. We always have full, current, information for monitoring the image of our products as held by distributors

Analysis of the competitors

1. We know our most dangerous competitors' aims and strategies

2. We know our most dangerous competitors' strengths and weaknesses very well

3. We have a system for precisely monitoring the evolution of the components of our competitors' marketing policy (products/services, price, communication and distribution)

Analysis of the environment

1. We have systems enabling us to closely monitor changes in the legal, social, economic, and technological environments

2. We identify the sensitive and risk factors that may impact on our business

Interfunctional coordination

1. Major market information is always spread over all the company's functional areas

2. Marketing strategies are always drawn up in agreement with the other business functions

3. We have implemented actions so that each person in the company feels individually committed

to customer satisfaction

4. We periodically organize interfunction meetings to analyze all important market information

5. We encourage informal exchanges of information between the company's different functions

Strategic actions on final customers

1. We are quicker than the competition in responding to changes in customers' requirements

2. Our marketing plan, with its necessary adaptations, is very well implemented overall

3. We give our customers complete information so they may use our products to the full and are satisfied with them

Strategic actions on distributors

1. We treat our distributors as though they were our actual customers

2. We modify the attributes of our products to adapt them to our distributors' requirements

3. We undertake actions to persuade our distributors of the benefits they obtain from working with our company

Strategic actions on competitors

1. We quickly respond to the actions of the most dangerous competitors for our company

2. We undertake actions to anticipate the competition

Strategic actions on the macro-environment

1. We develop strategies to support the defense of our sector's interests through communication and pressure groups (such as professional associations, employers' associations, etc.)

2. We actively participate in actions whose aim is to demonstrate the social usefulness of our sector to public opinion.
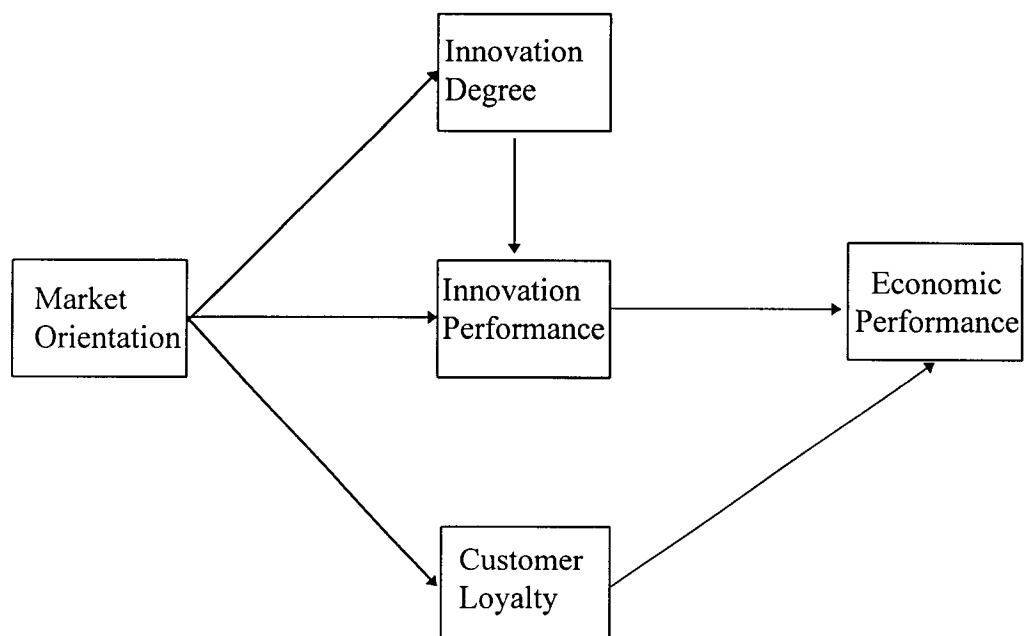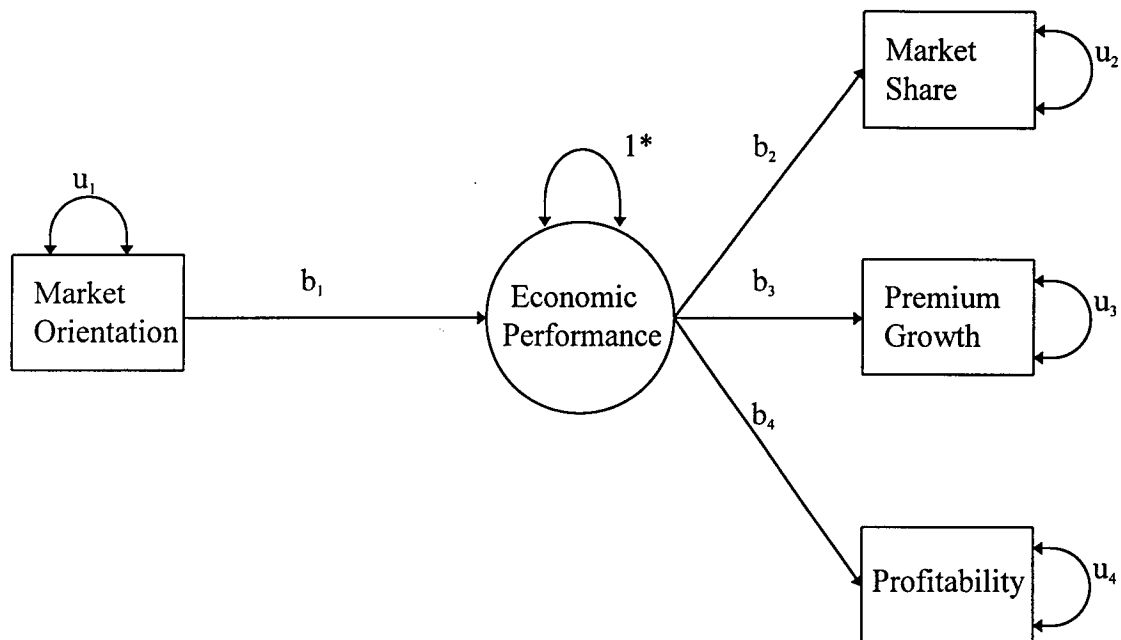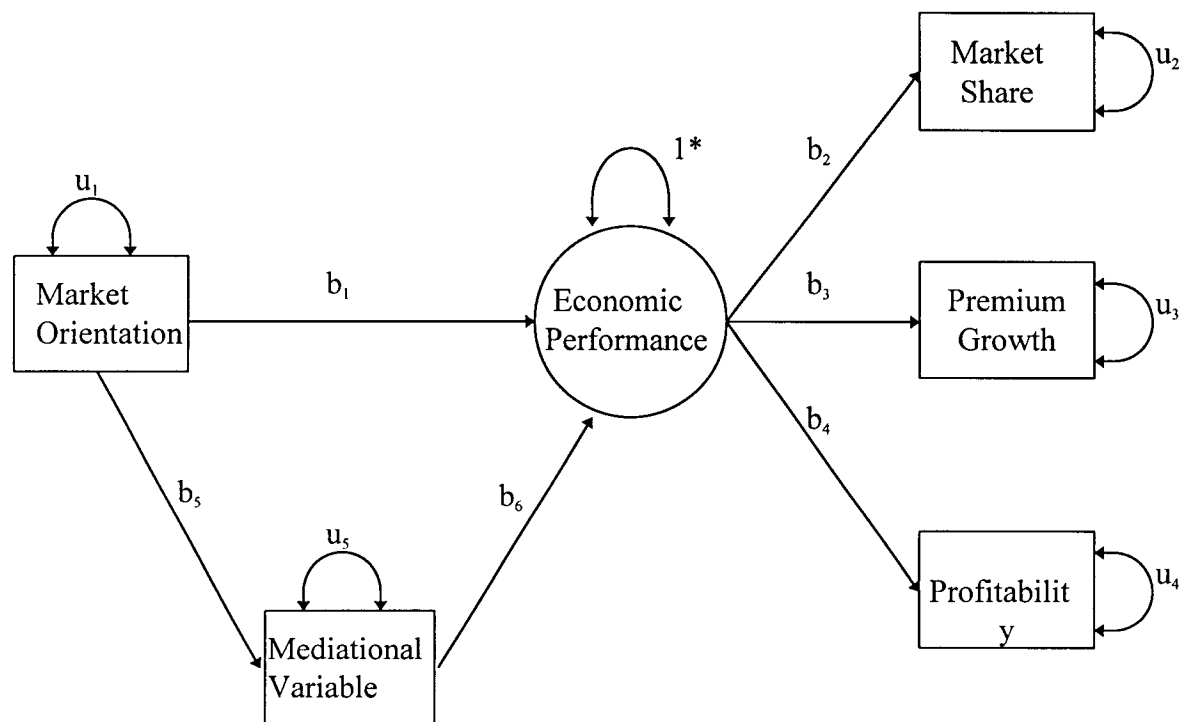
Figure 1

Hypothetical model

Figure 2

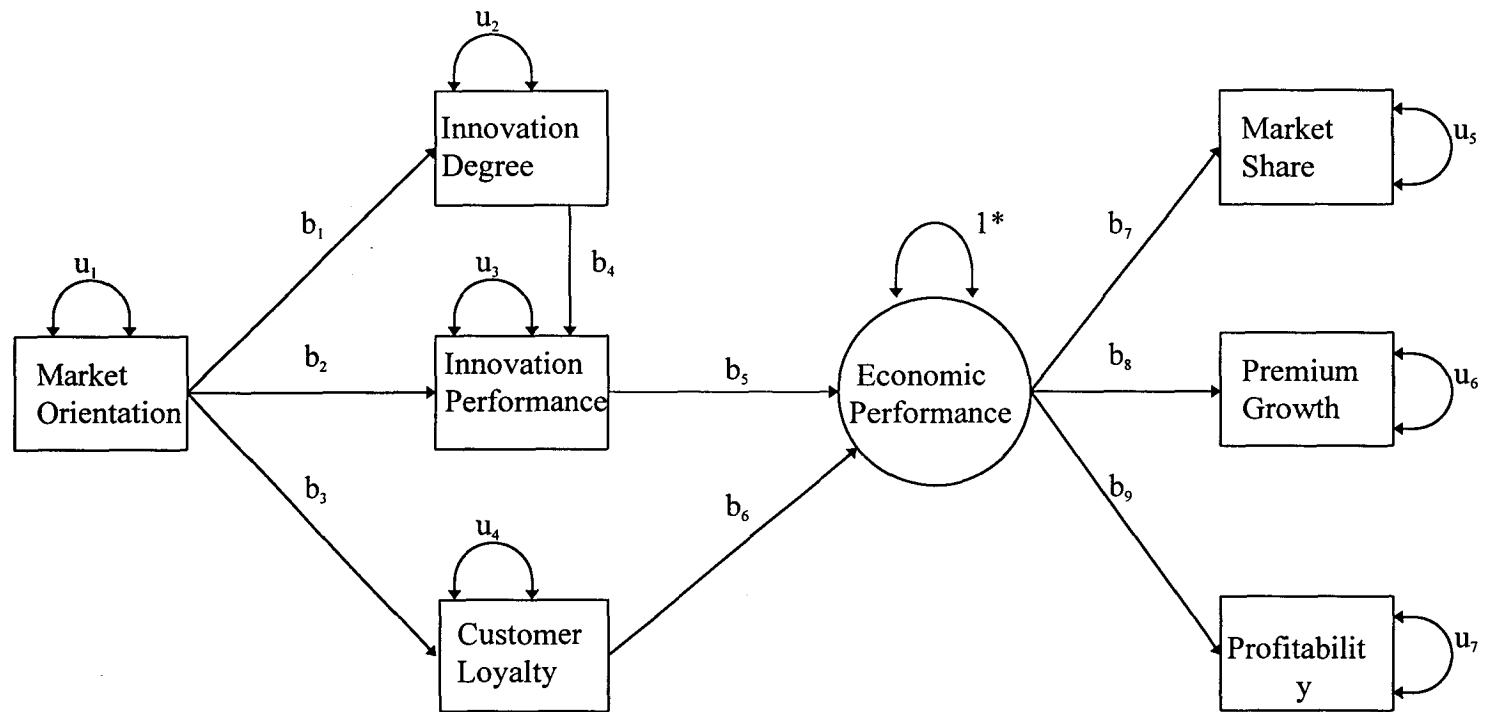Market orientation as predictor of economic performance

Notes: * parameter fixed for identification purposes

Figure 3

Mediational Model

Notes: * parameter fixed for identification purposes

Figure 4

Full model

Notes: * parameter fixed for identification purposes